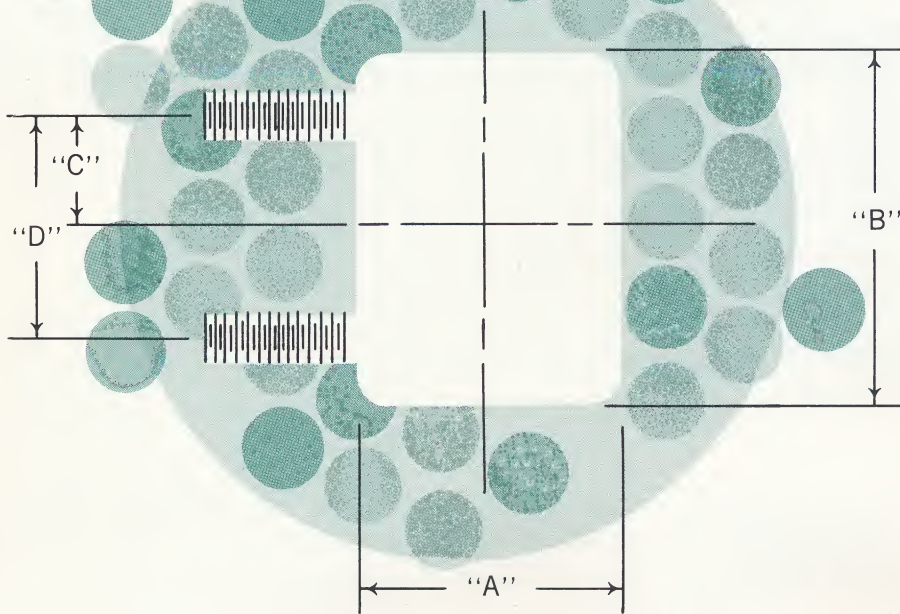


Michigan Magnetics Tape Heads

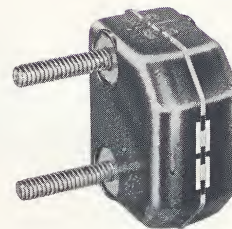




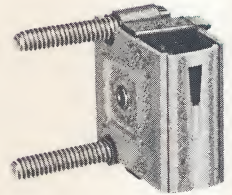
erase head



MECHANICAL OUTLINE

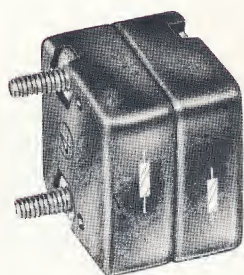
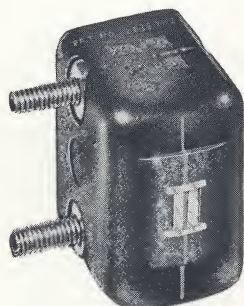
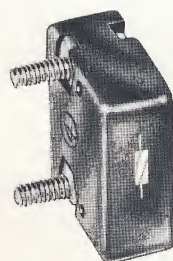
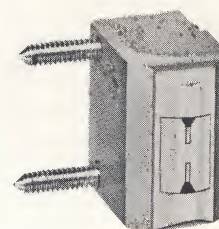


9EQ3-300



18HE6-201

"A" Dimension	.365	.250
"B" Dimension	.740	.530
"C" Dimension	.240	.240
"D" Dimension	.480	.480
"E" Dimension—Depth of Head	.650	.553
TRACK	.062	.125
ELECTRICAL CHARACTERISTICS		
Impedance at specified frequency	2500 Ω	2750 Ω
Erase Frequency	75KC	70KC
Erase Current	15.5MA	19MA
Erasure from Saturated Tape	-60DB	-55DB
Tape Speed (IPS)	7.5	7.5
Tape	3M190	3M190
Nominal Inductance	9.0MHYS	18MHY
D.C. Resistance	33 Ω	41 Ω

**5SS1****7EM12****5S1****12EQ-200**

.500

.512

.250

.375

.670

.720

.670

.620

.240

.240

.240

.240

.480

.480

.480

.480

.665

.750

.665

.560

.125

.125

.125

.062

1750 Ω 2200 Ω 1750 Ω 3000 Ω

62KC

80KC

62KC

70KC

17MA

30MA

17MA

15MA

-55DB

-50DB

-55DB

-60DB

7.5

7.5

7.5

7.5

3M111

3M111

3M111

3M190

5.0MHYS

5.4MHYS

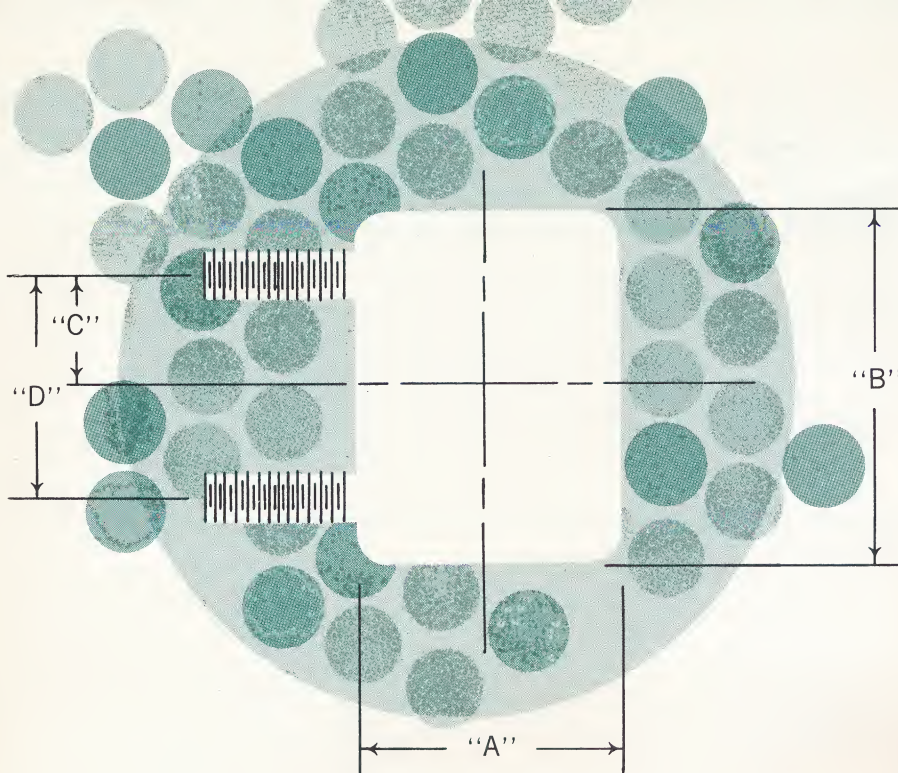
5.0MHYS

12MHY

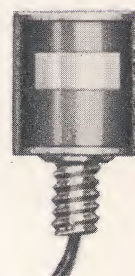
26 Ω ea. head28 Ω 26 Ω 40 Ω



record/play



MECHANICAL OUTLINE



3K17



3K17-102



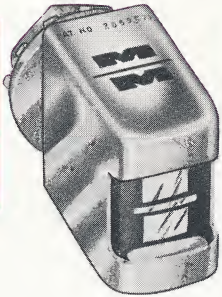
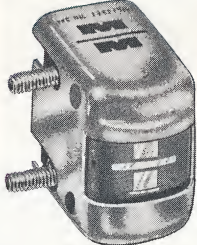
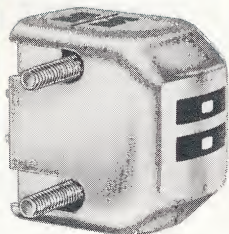
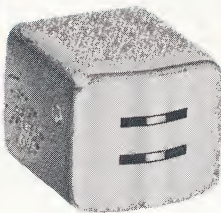
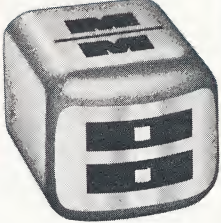
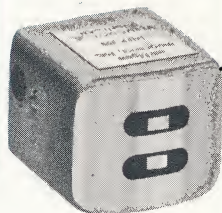
4N-300

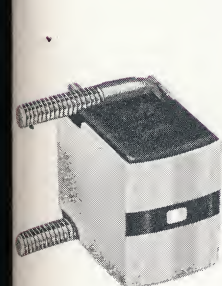
"A" Dimension	.340	.340	.575
"B" Dimension	.387	.387	.490
"C" Dimension			
"D" Dimension	Bottom Stud	Bottom Stud	
"E" Dimension —Depth of Head	.225	.225	.585
Track Width	.095	.260	.082

ELECTRICAL CHARACTERISTICS

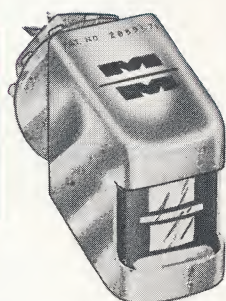
1 KC Impedance	2000 Ω	2000 Ω	2800 Ω
Record Level (Below Saturation)	—12DB	—12DB	—12DB
Audio Current	.043MA	.060MA	.028MA
Bias Current	1.0MA	2.0MA	.5MA
Bias Frequency	70KC	70KC	70KC
Playback Level:—@ 1 KC —@ 10 KC	2.0MV —8DB	4.5MV —12DB	2.2MV —12DB
Tape Speed (IPS)	7.5	7.5	3.75
Tape	3M190	3M111	3M190
Nominal Inductance	.3HY	.3HY	.4HY

Playback heads

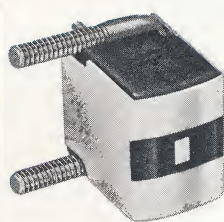
					
3F20-300	7B17-300	5QT17-300	4NE-300	5P17-300	1NPR-300
.343	.573	.563	.575	.575	.575
.625	.760	.760	.490	.490	.490
	.240	.240			
Rear Stud	.480	.480			
.875	.756	.713	.580	.580	.580
.082	.095	.043	.020	.043	.043
2000 Ω	5150 Ω	3340 Ω	2600 Ω	3500 Ω	780 Ω
-12DB	-12DB	-12DB	-12DB	-12DB	-12DB
.032MA	.032MA	.020MA	Playback	.018MA	.05MA
.4MA	.7MA	.3MA	Playback	.2MA	.5MA
60KC	70KC	70KC	Playback	70KC	70KC
3.2MV -6DB	3.5MV -8DB	2.4MV -6DB	.8MV -6DB	1.8MV -12DB	.8MV -6DB
7.5	7.5	7.5	3.75	3.75	3.75
3M190	3M190	3M190	3M190	3M190	3M190
.3HY	.75HY	.5HY	.38HY	.5HY	120MHY



5HQ17-300



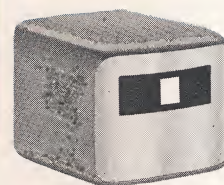
3FM20-304



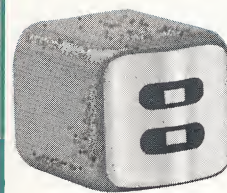
7H17-300



7L17-300



4NL-300

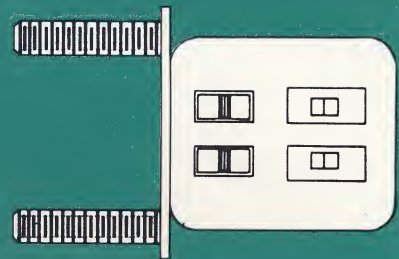
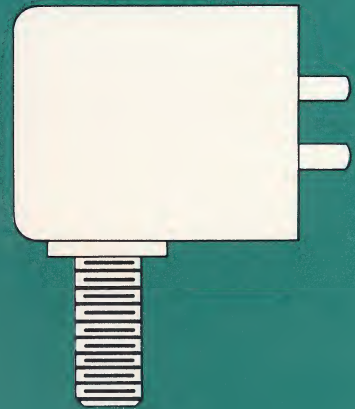
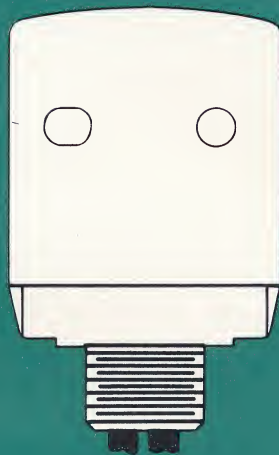


5NP-300

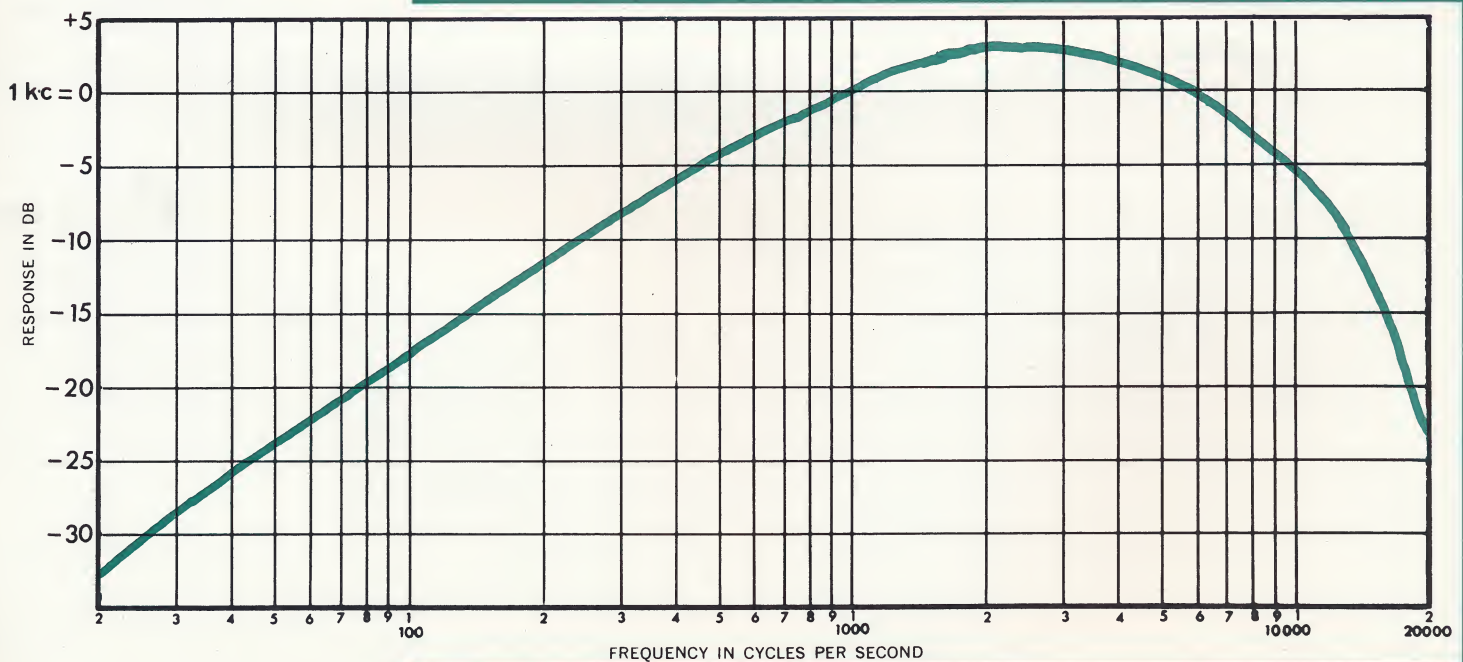
.370	.343	.370	.573	.575	.575
.530	.625	.490	.760	.490	.490
.240		.240	.240		
.480	Rear Stud	.480	.480		
.550	.680	.550	.756	.585	.580
.043	.082	.095	.095	.082	.043
3500 Ω	2000 Ω	5150 Ω	5150 Ω	2600 Ω	3300 Ω
-12DB	-12DB	-12DB	-8DB	-12DB	-12DB
.018MA	.032MA	.024MA	.03MA	.032MA	.022MA
.2MA	.4MA	.5MA	.7MA	.4MA	.18MA
70KC	60KC	70KC	70KC	70KC	70KC
1.8MV -12DB	3.2MV -6DB	3.0MV -8.0DB	3.5MV -8DB	1.8MV -8DB	1.5MV -6DB
3.75	7.5	7.5	7.5	3.75	3.75
3M190	3M190	3M190	3M190	3M190	3M190
.5HY	.3HY	.75HY	.75HY	.4HY	.5HY

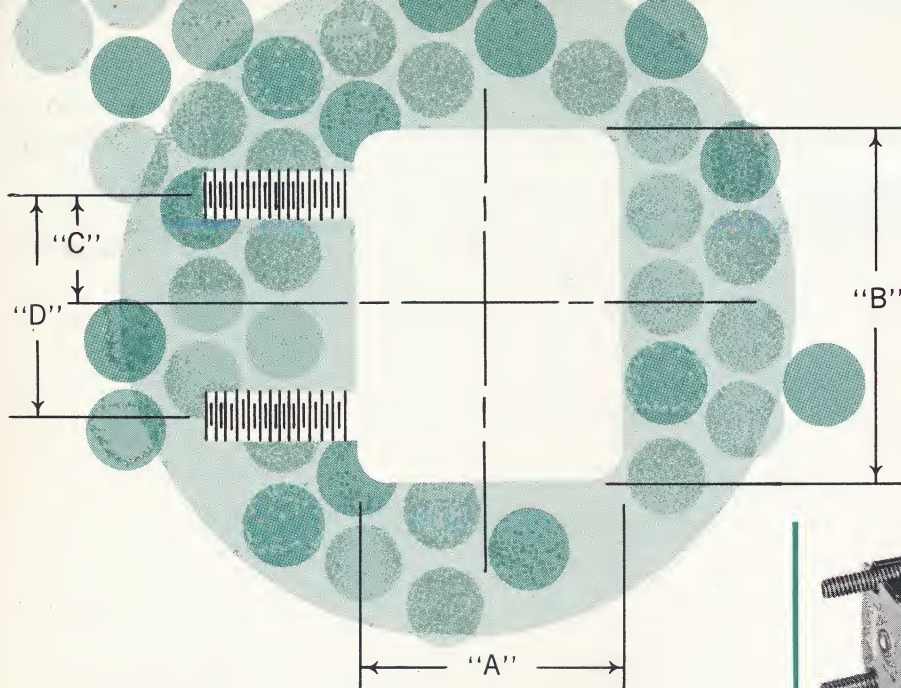
versatile mounting:

*heads may be supplied with side, bottom
or two types of rear mounting assemblies.*



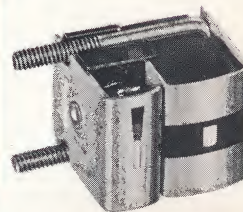
**TYPICAL
FREQUENCY
RESPONSE**



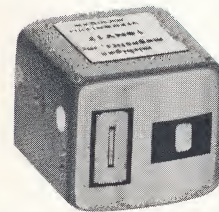


record/play

MECHANICAL OUTLINE



7HV17-300



10NV17-300

"A" Dimension	.625	.575
"B" Dimension	.530	.490
"C" Dimension	.240	
"D" Dimension	.480	
"E" Dimension—Depth of Head	.550	.585
Track Width	.095	.095

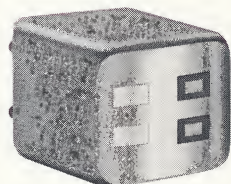
ELECTRICAL CHARACTERISTICS (record/playback section)

1 KC Impedance	5150 Ω	7000 Ω
Record Level (Below Saturation)	—12DB	—12DB
Audio Current	.024MA	.020MA
Bias Current	.5MA	.35MA
Bias Frequency	70KC	70KC
Playback Level: —@ 1 KC —@ 10 KC	3.0MV —8.0DB	5.0MV —6DB
Tape Speed (IPS)	7.5	7.5
Tape	3M190	3M190
Nominal Inductance	.75HY	1.0HY

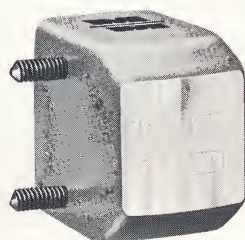
ELECTRICAL CHARACTERISTICS (erase section)

Impedance at specified frequency	2750 Ω	2200 Ω
Erase frequency	70KC	70KC
Erase Current	19MA	17MA
Erasure from Saturated Tape	—55DB	—60DB
Tape Speed (IPS)	7.5	7.5
Tape	3M190	3M190
Nominal Inductance	18MHY	7MHY
D.C. Resistance	41 Ω	11 Ω
Track Width	.125	.125

yback/erase heads



4NPV-300



6AV17-200

.575	.574
.490	.760
	.240
	.480
.585	.707
.043	.043
2600 Ω	4100 Ω
-12DB	-12DB
.024MA	.018MA
.2MA	.25MA
70KC	70KC
1.4MV	1.8MV
-6DB	-12DB
3.75	3.75
3M190	3M190
.4HY	.6HY
2500 Ω	2800 Ω
70KC	70KC
15MA	15MA
-60DB	-60DB
7.5	7.5
3M190	3M190
10MHY	12MHY
21 Ω	33 Ω
.062	.062

new levels of precision in quantity production

More tape recorder manufacturers depend on Michigan Magnetics than any other magnetic head manufacturer. As the largest producer, we set the highest standards in design, development facilities and personnel.

We require, for example, 100% inspection at every stage of production. Our new Series 300 material, a glass-filled molding material, has proved to reduce head wear three times as effectively as metal-faced heads.

Our complete range of basic tape recorder heads is achieved through the following manufacturing procedures:

- Mechanical and electrical design
- Model and prototype building
- Precision test design and fabrication
- Compression, transfer molding and injection molding
- Heat treating and annealing
- Subminiature coil winding
- Encapsulation, sealing and potting
- Lapping and finishing
- Electrical and mechanical testing
- Assembly and check-out

You may utilize any or all of these Michigan Magnetics capabilities in the exact combination best suited to your requirements.

FROM MICHIGAN MAGNETICS, INC.
VERMONTVILLE, MICHIGAN 49096

THIRD CLASS MAIL



Here is the information you requested

..... as seen in **electronic products**
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All VSI products are highly engineered precision components built in the belief that VSI customers deserve the highest degree of reliability—in design, in accuracy, in delivery.

VSI Corporation, 739 East Walnut Street, Pasadena, California



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